

IN THE SPECIFICATION

Please replace the paragraph beginning at page 2, line 17, with the following rewritten paragraph:

This incident X or gamma photon communicates fast movements to this electron with a kinetic energy of the order of magnitude of the energy of the incident photon. This ~~this~~ fast electron then ionizes some gas molecules contained in one of the holes into which the electron arrives, and ~~that~~ through which the electron usually passes ~~through~~.

Please replace the paragraph beginning at page 3, line 6, with the following rewritten paragraph:

These holes are formed by chemical etching. This ~~this~~ method is preferred to water jet cutting which generates a front shock when the jet is opened, when starting to perforate a hole.

Please replace the paragraph beginning at page 3, line 15, with the following rewritten paragraph:

Furthermore, the efficiency at which secondary electrons are collected and therefore the efficiency of these hole detectors are limited because this technique is used. For example, only 10 to 30% of the secondary electrons created during each gas ionization are typically collected.

Please replace the paragraph beginning at page 3, line 31, with the following rewritten paragraph:

More precisely, the purpose of this invention is a two-dimensional detector of incident ionizing radiation composed of first particles. This ~~this~~ detector ~~comprising~~ comprises a stack of sheets of a first material capable of emitting second particles by interaction with the incident ionizing radiation. This ~~this~~ detector ~~being~~ is characterized in that it also comprises:

- layers of a semiconducting material that alternate with sheets of the first material and may be ionized by the second particles, each of the layers being associated with one of the sheets, the stack having first and second opposite faces each containing corresponding edges of sheets and layers, the detector being designed to be laid out such that the ionizing radiation arrives on the first face, the length of each sheet measured from the first face as far as the second face being equal to at least one tenth of the free average path of the first particles in the first material.
- groups of parallel and electrically conducting tracks extending from the first to the second face parallel to the layers, each group being associated with one of the layers and in contact with it, the tracks being designed to collect charge carriers that are generated in the layers by interaction of the layers with the second particles and possibly with the first particles and that are representative of the first particles in intensity and in position. and
- means of creating an electric field capable of causing collection of charge carriers through the tracks.

Please replace the paragraph beginning at page 6, line 19, with the following rewritten paragraph:

According to this process, a layer of semiconducting material is formed on each sheet, where this layer ~~being~~ is provided with the group of tracks associated with it, and the sheets are provided with layers of semiconducting material, ~~and~~ The tracks are assembled together to obtain a stack in which these layers of semiconducting material alternate with the sheets.

Please replace the paragraph beginning at page 6, line 26, with the following rewritten paragraph:

According to one particular embodiment of the process according to the invention, a first layer of semiconducting material is formed on each sheet, where the thickness ~~being~~ is less than the thickness of the ~~said~~ layer of semiconducting material, The ~~the~~ group of tracks is formed on this first layer and a second layer of semiconducting material that covers these tracks is formed on the first layer, The ~~the~~ total thickness of the first and second layers ~~being~~ is equal to the thickness of the ~~said~~ layer of semiconducting material.

Please replace the paragraph beginning at page 8, line 21, with the following rewritten paragraph:

Each face 9 8 and 10 contains edges 12 of sheets 4 and edges 14 of layers 6 that alternate with the edges 12 of sheets 4.